

# Will they always be living the Sisyphus punishment? The triple whammy for racialized women: a qualitative investigation of primary care researchers in Canada



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## Summary

**Background** Existing literature overlooks the role of gender and race on research productivity, particularly in the context of primary care research. This study examines how gender and race influence the research productivity of primary care researchers in Canada, addressing a gap in existing literature.

**Methods** Qualitative, descriptive methods were used, involving 60-min interviews with 23 Canadian primary care researchers. 13 participants were female (57%) and 10 participants (43%) were male. Fourteen participants were White (non-racialized; 61%), 8 were racialized (35%) and 1 did not comment on race (4%). Reflexive thematic analysis captured participant perceptions of factors influencing research productivity, including individual, professional, institutional, and systemic aspects.

**Findings** Systemic bias and institutional culture, including racism, sexism, and unconscious biases against racialized women, emerge as key barriers to research productivity. The parenting life stage further compounds these biases. Barriers include lack of representation in faculty roles, toxic work environments, research productivity metrics, and exclusion by colleagues. Participants indicated that institutional reforms and systemic interventions are needed to foster a diverse, equitable, and inclusive environment. Strategies include recruiting equity-focused leaders, increasing representation of racialized female faculty, diversity training, mentorship programs, providing meaningful support, flexible work arrangements, and protected research time. Sponsors can offer more targeted grants for female and racialized researchers. Adjusting metrics for gender, race, parenthood, and collaborative metrics is proposed to enhance diversity and inclusion among researchers.

**Interpretation** This study underscores the importance of addressing systemic bias at institutional and systemic levels to create a fair and supportive environment for primary care researchers. A multitude of strategies are needed including increasing representation of racialized female faculty, creating supportive and psychologically safe work environments, and public reporting of data on faculty composition for accreditation and funding decisions. Together, these strategies can alleviate the triple whammy and free these researchers from the *Sisyphus Punishment* – the absurdity of being asked to climb a hill while pushing a boulder with no hope of reaching the top.

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**Keywords:** Qualitative study; Research productivity; Primary care researchers; Gender; Race

## Introduction

Worldwide, there is a recognition of the importance of primary care research to inform primary care reform.<sup>1,2</sup> Yet, research productivity in primary care is low due to underfunding.<sup>3</sup> Research productivity is often measured by metrics such as publication count,

citation count, and h-index. Research productivity of individuals is affected by the confluence of multiple, interconnected systems and processes that can create differential attainment<sup>4</sup> and disparities in academic and career achievement. Diverse research teams, reflecting different lived experiences, enhance

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### Research in context

#### Evidence before this study

Data sources for the statements made in this introduction and discussion include a literature review conducted in PubMed. We reviewed the literature on the influence of gender, race, and parenthood on research productivity. The search terms included “research productivity” AND “gender”, “race”, “discrimination”, “parenthood”, AND “primary care research productivity”. Our search was limited to published articles from 2000 to 2023 and we identified 3456 studies. These were individually screened for relevance, which identified 155 studies. The majority of these studies found females had lower research productivity compared to men across medical specialties. Some studies indicated the low presence of racialized females, disparities in research productivity, and exacerbation of inequalities during the COVID-19 pandemic. The review found there is no published evidence on the role of gender and race on research productivity in primary care research.

#### Added value of this study

This is the first study to show that systemic bias is entrenched in the cultures of academic institutions in primary care. This study extends the literature by providing perspectives on whether race and gender should be considered in the metrics of research productivity and the strategies that should be considered to foster a more diverse, inclusive and equitable research environment at the institutional and system levels.

#### Implications of all the available evidence

To support racialized female faculty, there are several opportunities for institutions to decrease differential attainment. Institutions should recruit and train leaders to detect discrimination, increase racialized female representation, and create equitable environments through equity commitments, data collection, and public reporting.

Investments in mentorship, grants, supportive work arrangements, and adjusted performance metrics are needed. Committees to address harassment and bullying should be established, and diversity training, collaborative metrics, and networking should be encouraged. Accreditation and funding agencies should make decisions based on transparent gender and equity departmental data, and sponsors should standardize eligibility requirements for funding opportunities, target grants for women and racialized researchers, use anonymized reviews, and consider personal circumstances in awards. To create diversity in research and inclusion of researchers, collaborative metrics should be part of granting award decisions, promotions, acceptance of journal manuscripts, and conference presentations. Granting agencies, stakeholders, professional colleges and associations can also increase the representation of racialized females on committees, advocate for equitable representation in primary care research and support targeted funding opportunities. Future research should explore the intersectionality of gender with other identities, such as race, ethnicity, and sexual orientation, to gain a deeper understanding of the compounded effects of multiple marginalized identities on research productivity. A comprehensive national study is needed in Canada to examine the number of racialized researchers in departments of primary care researchers over time and explore their experiences during recruitment, in the workplace, and in leadership positions to help inform policy changes and interventions at the national and provincial/territorial levels. Research is also needed to evaluate the effectiveness of interventions to help provide evidence-based recommendations to institutions, funders, and other academic organizations on how to promote diversity, inclusivity and equity.

research excellence and innovation.<sup>5</sup> Thus, research must adopt an equity lens to ensure a holistic understanding and address systemic biases.

Racism in academia is pervasive.<sup>6</sup> Racialized trainees, junior researchers and faculty face a “hostile obstacle course” rather than the popular but passive, leaky pipeline analogy.<sup>6</sup> At the individual level, sex, gender and race impact research productivity across disciplines.<sup>7</sup> While the overall number of female faculty has increased within higher education institutions, racialized minority females remain a small proportion.<sup>8</sup> A number of studies suggest that women and faculty of colour are seen as less credible and lacking in skill and intellect.<sup>9</sup> Moreover, research notes how societal expectations and stereotypes about gender influence the development of cognitive schemas, which in turn shape individuals’ behaviour and perceptions.<sup>10</sup> This can result in colleagues devaluing their research and questioning

their qualifications, leaving women and faculty of colour disproportionately harmed by invisible, systemic biases and, ultimately, devaluation of their scholarship.<sup>9</sup> Moreover, racialized women are less likely to progress to senior and leadership roles and more likely to experience discrimination, bullying, harassment, and victimisation in the workplace because they are racialized.<sup>11,12</sup> Non-research work, such as service and mentoring, also often carries gendered and racialized expectations, which can disproportionately burden women and racialized individuals, contributing to lower research productivity.<sup>13</sup>

Research from both Science, Technology, Engineering and Mathematics (STEM) and non-STEM fields consistently demonstrates that female and racialized female researchers face challenges in terms of lower publication rates, citation counts, and h-indexes compared to their male counterparts.<sup>14,15</sup> The result of

racialization and discrimination in the academia responsible for training the next generation of clinicians and scientists is differential attainment, disillusionment and attrition.<sup>4</sup> Another important confluence of factors shown to influence research productivity is the intersection between sex and parenthood. A landmark study using longitudinal publication data on 3064 tenure-track faculty across the USA and Canada found that over the ten years after the birth of their child, mothers produce, on average, 18 fewer papers than fathers—a gap that would take mothers about five years to catch up to fathers.<sup>16</sup> Existing literature revealed that the workplace environment significantly influenced researchers' experiences across all stages of their careers, and this influence intensified as they grew older.<sup>17</sup> While younger women researchers were particularly concerned with achieving a balance between work and personal life compared to their older counterparts, the overall impact of workplace climate remained equally significant for both age groups.<sup>17</sup>

To our knowledge, little is known about how gender and racialization influence research productivity in primary care. The purpose of this study is to examine how gender and racialization influence the research productivity of primary care researchers in Canada.

## Methods

We conducted a qualitative, descriptive study with key informants to capture participant perceptions of the impact of race and gender on research productivity within a larger study. Thus, subgroup analyses were not conducted, as qualitative descriptive studies aim to provide comprehensive summaries of experiences rather than compare subgroups quantitatively.<sup>18</sup> This approach allows for a broad understanding of the phenomena across the entire participant pool.<sup>18</sup> The study followed the Consolidated criteria for Reporting Qualitative Research,<sup>19</sup> and ethics approval was obtained from the University of Toronto (#43254).

### Setting and participants

Semi-structured interviews with Canadian primary care researchers were conducted after obtaining informed consent. Using purposeful and theoretical sampling techniques, we identified participants based on their gender, ethnicity, parenthood, research expertise, education, credentials (e.g., MD versus PhD), profession (physicians, nurses), academic rank, jurisdiction, and career length. We recruited participants from a pre-existing list of primary care researchers across Canada developed by the research team. Initially, we identified key institutions and organizations involved in primary care research in Canada. Subsequently, we conducted extensive literature reviews and consulted with experts in the field to ensure comprehensive coverage. Subsequently, we utilized professional networks and

databases to gather information on active researchers. We asked all research directors from family medicine departments ( $n = 17$ ) across Canada to identify primary care researchers—leading to a total of 299 participants to select from.<sup>20</sup> Researchers who did not conduct primary care research or who were deceased were not eligible. Participants were included until reaching theoretical saturation, where additional interviews no longer yielded new themes or insights, ensuring a comprehensive representation of diverse experiences within the primary care research community. This meticulous process enabled us to compile a robust and representative list of primary care researchers, ensuring the diversity and relevance of participants for our study. All participants were contacted via email. A written informed consent form was completed by participants.

### Data collection

Interviews, lasting approximately 60 min, were conducted virtually to explore primary care researchers' perspectives on their research productivity. The interviews were audiotaped, transcribed verbatim, and reviewed for accuracy by two members of the research team who reviewed the audio recordings against the transcriptions. Before the interview, participants completed a demographic questionnaire that outlines race and ethnicity categories (see [Table 1](#)). The interviews focused on various factors influencing research productivity, including individual, professional, institutional, and systemic aspects, and barriers, facilitators, and lessons learned (see [Appendix A](#) for the interview guide). All participants knew of the goal of the study prior to the interview. Some participants were personally known to the interviewer before the interview. The interviews were conducted by the Principal Investigator (PI), a female, racialized and PhD-trained researcher (MA). The interviewer maintained confidentiality by anonymizing all interview data and ensuring that participants' identities were kept confidential, even if they were personally known to her, by using coded identifiers and not including any personally identifiable information in the transcripts or analysis. Participants were only interviewed once between November 2022 and February 2023.

### Data analysis

Reflexive thematic analysis and data collection occurred simultaneously. Descriptive statistics were used to characterize the demographic characteristics, while interview data were analysed using thematic analysis following Braun and Clarke's approach.<sup>21</sup> We also used an intersectional lens<sup>22</sup> to focus on the relationships between mutually constituting processes that influence research productivity. Specifically, we analysed the data across and within participants with similar identities (e.g., racialized versus non-racialized female, racialized female and male, male and female parent, racialized and

Demographic characteristics	Count	%
Gender		
Female	13	57%
Male	10	43%
Parental status		
Parent	16	70%
Not a parent	6	26%
No response	1	4%
Racialization		
Not racialized	14	61%
Racialized	8	35%
No response	1	4%
Education/Credentials		
PhD	8	35%
PhD & MD	8	35%
MD	5	22%
Other PhD & MD (Combined and PhD & NP/RN)	2	9%
Marital status		
Married	18	78%
Other	5	22%
Age group		
<35 years old	2	9%
35-49 years old	8	35%
50-64 years old	4	17%
65< years old	6	26%
No response	3	13%
Profession		
Physician	13	57%
Nurse (RN, NP)	3	13%
Not a healthcare provider	6	26%
No response	1	4%
Years as independent researcher		
<11 years	3	13%
11-15 years	4	17%
>15 years	10	43%
No response	6	26%
University affiliation		
University of British Columbia	1	4%
University of Alberta	1	4%
University of Calgary	2	9%
University of Saskatchewan	2	9%
University of Manitoba	1	4%
University of Toronto	4	17%
Western University	3	13%
McMaster University	1	4%
University of Ottawa	2	9%
Université Laval	1	4%
University of Sherbrooke	1	4%
McGill University	2	9%
Dalhousie University	1	4%
Memorial University	1	4%
Department affiliation		
Family Medicine	21	91%
Nursing/Public Health	2	9%

(Table 1 continues on next page)

Demographic characteristics	Count	%
(Continued from previous column)		
Jurisdiction		
British Columbia	1	4%
Alberta	3	13%
Saskatchewan	2	9%
Manitoba	1	4%
Ontario	10	43%
Quebec	4	17%
Nova Scotia	1	4%
Newfoundland and Labrador	1	4%

**Table 1: Characteristics of participants.**

non-racialized female parent) to explore how overlapping social categories such as gender, race and parenthood intersect to shape individuals' experiences and behaviours related to relational practices. By considering the simultaneous impact of these intersecting identities, we aimed to uncover nuanced patterns and dynamics that might otherwise be overlooked or oversimplified. Transcripts were independently coded and organised into themes and sub-themes. The research team developed a coding framework, refined and applied it to transcripts. To enhance transparency and rigour, all 23 transcripts were independently coded by two research assistants using the refined coding framework. This approach ensured consistency and rigour across the dataset. Any discrepancies were addressed through regular discussions with the PI until a consensus was reached, supported by maintaining reflexive notes throughout the process. Iterative adjustments were made to the coding framework. Consistency checks and discussions were held to address discrepancies and reach consensus. Themes were identified iteratively, considering how these intersections shape the data. Reflexive notes were maintained during the process. Throughout the analysis process, researchers continuously reflected on their interpretations and considered how their own identities and perspectives may influence their understanding of the data. NVivo 12.0 was utilised for coding.

Summaries for each theme were created based on the DEPICT method.<sup>23</sup> Our diverse team included racialized primary care researchers with expertise in qualitative methods and two racialized and non-racialized research assistants with experience in health services research. All team members were at various stages of their academic careers. This range of expertise and perspectives enabled thorough consideration of alternative interpretations and enhanced the rigour of our analysis. Ongoing discussions within the research team ensured the trustworthiness of the qualitative analysis, with alternative interpretations considered. Member checking was conducted with two participants (one bi-racial male and one racialized female), ensuring

the credibility and reliability of the analysis. These participants responded to the preliminary findings to confirm that the interpretations accurately reflected their experiences and perspectives. Their feedback was incorporated into the final analysis, thereby enhancing the trustworthiness of the study.

**Role of funding source**

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**Results**

**Participant characteristics**

23 primary care researchers participated; 13 were female and 10 were male, 14 were White (not racialized) and 8 were racialized. 1 participant did not comment on race. Sixteen participants had children. Of the eight racialized individuals, two identified as Black, one as East Asian, one as South Asian, one as bi-racial, two as Middle Eastern and one as Latino.

Table 1 provides information on participant characteristics. Systemic bias was an overarching theme that was found to impact research productivity and intersected with the race and gender of primary care researchers. In our analysis, we identified two distinct yet interconnected themes: systemic biases and institutional culture. Systemic biases refer to the pervasive and entrenched patterns of discrimination or disadvantage within societal structures

and systems, which encompass broader societal norms, practices, and policies perpetuating inequalities based on factors such as race, gender, and socioeconomic status.<sup>24,25</sup> Drawing from critical race theory<sup>26,27</sup> and feminist theory, we contextualized participants' experiences of systemic biases within the broader sociopolitical landscape, emphasizing the intersecting oppressions faced by racialized individuals and women in academic research settings.<sup>28</sup>

In order to provide a comprehensive overview of the thematic structure of the results, a table has been included to organize the sub-themes identified within each main theme (See Appendix 2: Organization of Sub-themes). This table includes specific recommendations from participants for funding agencies and academic institutions to support underrepresented groups. To enhance clarity and facilitate a deeper understanding of the strategic implications of our findings, Fig. 1 visually illustrates the alignment between themes and participant recommendations.

**Theme 1: systemic biases**

Systemic bias was identified as a key factor in impeding research productivity by participants in response to the question asking what factors had the most significant—either positive or negative - on their research productivity. In speaking largely about racialized individuals and women of colour, participants noted the pervasiveness of systemic racism, sexism, and discrimination in research. A non-racialized male participant shared: *“Medicine is no paragon of virtue ... ” it's heavily discriminatory. There is racism amongst researchers ... there was all this research about the underrepresentation of visible minorities in medicine and top academic positions in the States which was published by a group of white dudes in*

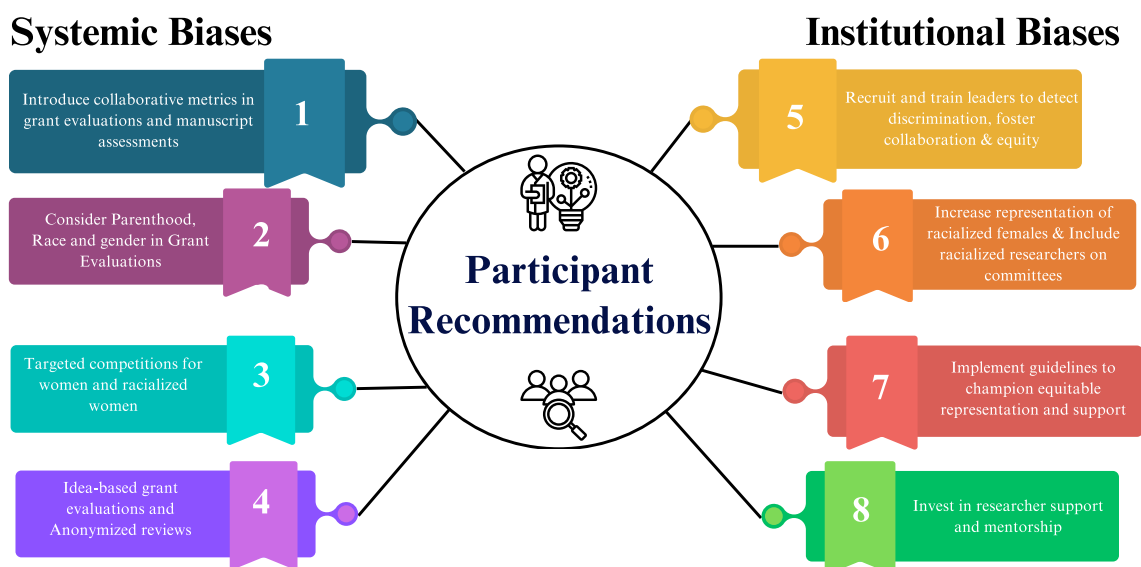


Fig. 1: Participant recommendations by themes.

JAMA, and there was a woman of colour who had published the exact same study 1–3 years earlier, and they just like copied exactly what she did. And you know, published it in a top academic journal” (Researcher 8, male, non-racialized, parent). This quote suggests the ideas and work of racialized researchers remain undervalued until those who are the dominant gender and culture draw attention to issues.

Participants indicated unconscious biases caused overt racism and sexism, which had the most significant negative impact on racialized women. A non-racialized participant shared their astonishment at the differential treatment experienced between themselves and a racialized female colleague, stating, “I’ve been in situations where I’ve been absolutely gobsmacked by the difference in my reception as opposed to a racialized female colleague ... They went from one approach to an entirely different, aggressive, antagonistic approach” (Researcher 10, male, non-racialized, parent). Female racialized researchers shared their struggles to be recognised, heard, and considered for collaboration and promotion. One female researcher expressed, “when I walk in a room compared to other people, people don’t expect me to be a researcher ... The bar I then have to climb is higher” (Researcher 15, female, racialized, parent). These two quotes suggest systemic bias continues to occur regularly, especially for racialized female researchers.

In asking researchers about whether they think there are gender differences in experiences related to research productivity, female researchers described primary care research as driven by a “boys club.” Participants discussed how systematic biases of women based on their societal roles impacted them at the institutional level. Female participants felt more men were successful in attaining leadership positions in research institutions. One participant stated, “I felt more male colleagues are having more leadership positions, having more grants, funding ... getting more credits for what they are doing.” (Researcher 18, female, racialized, non-parent). Many participants, especially racialized females highlighted that women are often expected to do more non-research-related activities than men. For example, women are more involved in “nurturing work” by assisting colleagues and students with their work.

### Parenthood

A common theme that was raised when discussing gender differences was the distinct role that women play in parenthood and elder care. We noted no difference between racialized and non-racialized researchers who spoke about motherhood. Instead, there was consensus among male and female researchers that gendered roles, rather than racial roles in parenthood are a barrier to research productivity, with a greater impact on early career researchers. A researcher explained the difference: “I think parenthood plays a role ... women are more likely to have caregiving responsibilities ... Whether it’s for

elders, or whether it’s for children or people who have other health care needs in families, that often falls to the woman to do that.” (Researcher 16, female, non-racialized, parent). Participants with children indicated they had less time to spend on work during the evenings and weekends, could not travel to conferences and had more disruption to work schedules during illness or emergencies. Male researchers with and without children were observed to have increased productivity, prompting suggestions to aid those with children: flexible work options, business-hour meetings, protected research time, and reduced teaching commitments post-parental leave.

Some participants felt the national institutional tripartite grant process was a barrier to success. Several researchers talked about the low success rates in tri-council funding competitions. A participant explained their experience as a reviewer: “... We have the section in CV to say I took maternity leaves, ... But I never heard a reviewer at CIHR say, “..We didn’t fund this project, but did you consider that she has [number] kids” I never heard a reviewer weigh her or his opinion based on those section. They are always looking at the researcher’s capacity, researcher’s past track record and methodology.” (Researcher 11, female, non-racialized, parent).

At the systems level, researchers recommended that granting agencies implement policies that allow for targeted competition for women and introduce requirements to consider reasons for research productivity (gender and parenthood). A strategy to address the exclusion of racialized researchers in research collaborations is to introduce “collaborative metrics.” This could apply to grant submissions where the team composition determines awards, the degree to which racialized researchers are cited in journals, and the degree to which institutions support diverse faculty. A researcher provided an example: “I’m more interested in creating metrics that everyone has to reach that would honour and value the experience of racialized folks and females .... You get docked marks if your papers are all one and two authors like that should be seen as a failure because how is it that you’re publicly funded get public dollars, and you have been not invited, not brought on board more people.” (Researcher 15, female, racialized, parent). Journals and institutions could also introduce the collaborative metric to determine acceptance and promotion.

### Theme 2: institutional culture

The impact of systemic bias permeates the institutional culture of academia. Institutional culture pertains to the shared values, beliefs, and norms within an organization or institution.<sup>29</sup> It encompasses the unwritten rules, practices, and behaviours that shape the working environment and influence individuals’ experiences and interactions within that institution.<sup>30</sup> In asking participants if racial differences influence experiences related to research productivity, both male and female, racialized and non-racialized



participants shared stories of racialized women facing disadvantages due to biases among colleagues and leadership. These participants largely spoke about the experiences of others rather than themselves. One researcher described an experience on a hiring committee where *“The committee picks a woman of colour as the first-choice candidate. The [individual] of the hiring committee, who was the person who sort of assembled, what I presumed to be the bias, hiring committee in the middle just negotiated with this primary candidate in such bad faith like gave such a low offer that nobody would ever accept.”* (Researcher 16, female, non-racialized, parent).

Racialized female researchers discussed work environments where colleagues and leaders did not support them and faced institutional bureaucracy. Non-racialized and most racialized female faculty reported completing more administrative and teaching duties than their male colleagues. A female racialized researcher explained how the culture in her workplace resulted in colleagues taking advantage of her work and leaving her out of future collaboration. *“My [person] were not that helpful ... These are all white people. And as soon as I finished my [graduate degree], [colleagues and supervisor] used my work, got a grant.. for continuing that work ... I didn't know that they did it without me being involved.”* (Researcher 2, female, racialized, parent). On the other hand, racialized males did not feel they had been discriminated against in their careers, suggesting that the discrimination largely impacted women of colour.

A few non-racialized researchers indicated that it was not fair for a racialized individual to be measured the same as them due to their privileged position in society. A researcher offered a view on quotas in universities to address historical and current discrimination, stating, *“the easiest and fastest way to change that is to start building quotas for access for those groups who were previously discriminated groups, and often currently discriminated against, to have access to the resources ... some sort of quota system for grants, for jobs, for promotion”* (Researcher 14, male, non-racialized, parent). Male and female participants urged institutions to focus on changing the culture by recruiting leaders that will foster equity, boosting racialized and female representation in leadership and faculty roles, using confidential demographic data and unbiased committees in hiring, requiring diversity training for leaders and faculty, investing in mentorship programs, providing meaningful support by fostering connections, championing and recognising contributions and providing research funding, implementing varied productivity metrics, and flexible work hours.

## Discussion

This is the first study to show how systemic bias exists at the level of institutions and across society in primary care research in Canada. This study found that systemic

bias in the forms of racism and gender, along with the life course stage of parenting, is a significant barrier to research productivity in primary care. Institutional policies and practices can perpetuate harmful behaviour. Taken together, systemic bias and institutional culture create a foundation for oppression. Our study provides evidence of *how* bias and culture operate to negatively impact women, particularly racialized women. For instance, our participants highlighted the pervasive impact of systemic racism and sexism in Canadian academia, providing concrete examples of how these biases affect research productivity and career progression. Our participants provided specific examples of discriminatory hiring practices, differential treatment, and the burden of additional non-research-related responsibilities, which are consistent with broader literature but contextualised within the Canadian primary care research environment.<sup>31,32</sup>

The triple whammy of being a woman, racialized, and a parent has significant implications for research productivity. These findings are supported by literature in other disciplines that suggest gender and race explain differences in research productivity.<sup>33,34</sup> This study extends the literature by providing perspectives on whether race and gender should be considered in the metrics of research productivity and the strategies that ought to be considered to foster a more inclusive and equitable research environment at the institutional and system levels. Furthermore, the portrayal of primary care research as a *“boys club”* underscores the gendered dynamics within the field, where institutional biases and societal roles often disadvantage women researchers. Moreover, participants often discussed the collaborative nature of primary care research, which involves interactions with various healthcare professionals across disciplines. This interdisciplinary approach likely exposes primary care researchers to biases and dynamics specific to different healthcare settings, which may differ from those encountered in more specialised research fields.

Most researchers agreed that systemic barriers should be addressed for female and racialized faculty at various stages of career progression, including faculty entry, during their tenure, and in leadership roles. There are three areas where leaders, staff and faculty within institutions can begin to address these barriers: 1) increasing representation of female racialized faculty and leaders; 2) investing and supporting equity, diversity, and inclusion practice; and 3) re-evaluating research productivity metrics using an equity lens. Overall, the examination of systemic biases and institutional culture within primary care research provides insights into the unique experiences and challenges faced by researchers within this field, offering a nuanced perspective that contributes to the broader discourse on diversity and inclusion in academia.

### Representation of female racialized faculty and leaders

Women and racialized women are underrepresented in academic institutions as faculty and in leadership positions. Recent work analysing the academic and doctoral education of tenure-track faculty over time suggests that the hiring and retention of women faculty has plateaued.<sup>35</sup> Racialized females are more likely to be hired in non-tenure track positions, resulting in lower salaries, less career advancement, and less power to have a voice in the workplace.<sup>36</sup> Without concerted efforts to hire women and create more inclusive work climates, long-term gender parity may not be achievable.<sup>35</sup> To support racialized female faculty, there are many opportunities for institutions to decrease differential attainment.

At the institutional level, participants noted that academic institutions should recruit Deans and Department Chairs who acknowledge the issue and consciously increase the representation of racialized female faculty and leaders by implementing guidelines to champion equitable representation and support. This is particularly important as their underrepresentation is a barrier to the mentorship of the next generation. Hiring committees should include adequate representation of racialized faculty and implicit bias training for faculty, staff, and decision-makers involved in hiring, promotion, and tenure processes can help overcome biases.<sup>37–39</sup> Some participants suggested the implementation of a quota system for grants, jobs and promotion and cluster hiring to address inequity and support researchers.<sup>40</sup>

At the systems level, representation must go beyond academic institutions<sup>41</sup> and be included across committees within granting agencies and stakeholder groups to promote diverse perspectives, equitable opportunities, and fair decision-making processes. Professional colleges and associations can also play a role in advocating for equitable and fair representation in primary care research by ensuring balanced representation on their research committees and advocating for support for female racialized researchers through their funding opportunities and within academic institutions and granting agencies.

### Investments and supports for equity, diversity and inclusion

At the institutional level, participants indicated that providing mentorship of racialized females was essential during and after training and for those with similar backgrounds. There is substantial literature that indicates institutions should invest in supporting racialized researchers through mentorship programs that pair early-career researchers with experienced mentors of similar backgrounds, mentorship teams<sup>42</sup> or committees, integrated career coaching, time banking systems,<sup>43</sup> and opportunities for professional development

(e.g., providing funds to early-career researchers for research). Participants indicated academic institutions should actively advocate for all their researchers, especially those who are women and racialized, highlight their achievements, and provide opportunities for professional recognition, such as awards, speaking engagements and media exposure.

To support female and racialized faculty affected by temporal factors such as career stage, career interruptions, and caregiving responsibilities, researchers recommended that institutions provide protected time for research and implement work-life integration policies, including flexible work hours, part-time work, job sharing, and on-site childcare facilities.<sup>44</sup>

At the systems level, sponsoring agencies can facilitate diversity and support for females with children through innovative grant opportunities for women who become part-time employees during early child-bearing years or job-sharing opportunities. More targeted grants and Research Chair positions should be provided for early-career females and racialized females, and eligibility should be required to include non-tenured faculty who are often racialized females.<sup>45</sup> Mentorship grants can support senior faculty for their time as mentors.<sup>46</sup>

### Fostering inclusiveness and collaboration

Participants indicated that the implicit biases of racialized researchers in grant competitions should be removed by sponsors by implementing anonymized review processes. In addition, institutions and sponsors can also invest in and support collaboration among colleagues through diversity and inclusion training for faculty and leaders. Department leaders can help female and racialized faculty become part of professional networks in areas of expertise through the organisation of events and meetings with faculty and leaders within and outside of the institution. Inclusion can also be fostered by implementing collaborative metrics that assess the diversity of the research team. These metrics should be included as part of performance and tenure reviews, granting award decisions, acceptance of journal manuscripts and conference presentations.

### Harassment and bullying free work environments

Similar to other studies, this study found that racialized females experience a hostile work environment and are subjected to microaggressions in social interactions.<sup>28</sup> The literature suggests employers contribute to the situation by discouraging these researchers from speaking out by instilling fear of retaliation.<sup>28</sup> The result is prolonged stress, anxiety, burnout and imposter syndrome, which results in workforce attrition.<sup>47</sup>

In some institutions, a pledge or committee on diversity, inclusion, and anti-racism has been established to review harassment and bullying acts anonymously and to mediate conflict.<sup>36,48</sup> The publicising of outcomes of reported incidents can prevent harassment



and bullying.<sup>36</sup> Institutional policies should educate and mandate leaders to address harassment within and outside of academic institutions and be held accountable for inaction. At the systems level, sponsors can assist researchers by including requirements for harassment and bullying-free environments as a condition of funding.

#### Equity commitment, data and accountability

As noted by other scholars, departments should commit to yearly equity, diversity, and inclusion activities,<sup>49</sup> accompanied by mandatory data collection (gender, ethnicity, rank, appointment status (tenure, contract), position)<sup>11</sup> and public reporting for transparency, accreditation and ranking. At the systems level, Research Chair positions should be based on standardized eligibility requirements across all institutions which include all faculty (tenure, contract), fair and unbiased nomination processes and committees and evaluation of mandatory departmental data and the degree to which awards are equitably distributed based on gender, equity, and appointment status. Regular salary reviews backed by transparent audits can guarantee equitable pay.<sup>50</sup>

#### Re-evaluating metrics for research productivity

Given the many challenges faced by females and to help mitigate biases that predominately impact early-career female researchers, several participants indicated the expectations of research productivity need to be re-evaluated in academic institutions and adjusted to consider the role of race and individual circumstances (parenthood). In academic institutions, labour unions can play a role in negotiating fair policies for tenure and promotion to address systemic inequities that female and racialized faculty experience.<sup>51</sup> Participants indicated that sponsors should have a mechanism for serious consideration of these circumstances in award decisions.

#### Future research

Sponsors can support research that will improve gender and racial equity. Future research should explore the intersectionality of gender with other identities, such as racialization, ethnicity, and sexual orientation, to gain a deeper understanding of the compounded effects of multiple marginalized identities on research productivity. A national study in Canada is needed to uncover the composition of faculty, including racialized researchers in departments that conduct primary care research over time and explore their experiences with respect to recruitment, institutional leadership and culture to help inform policy changes and interventions at national and provincial/territorial levels. Research is needed on how metrics for gender and race and collaborative metrics should be designed and implemented. Research is also needed to evaluate the effectiveness of interventions to

help provide evidence-based recommendations to institutions, funders, and other academic organisations on how to promote inclusivity, diversity and equity.

#### Limitations

While efforts were made to include a diverse group of participants, the findings may only partially represent the experiences of some primary care researchers in Canada. Although our sample includes a diverse group of researchers in Canada, it may not be fully representative of the entire population of researchers in the country. This limitation reflects the inherent challenges in obtaining a comprehensive sampling frame in qualitative research, where the focus is on depth and transferability rather than statistical representativeness. This study relied on retrospective data, which may be subject to recall bias. The mode and length of the interviews may have introduced non-response or sampling bias, as potential participants might have been deterred by the virtual format or the time commitment, potentially impacting the diversity of perspectives captured in the study. Future research should consider a more comprehensive examination of the intersecting identities and experiences of researchers to provide a more nuanced understanding of the challenges they face.

#### Conclusion

Our study reveals how gender, race, and parenthood affect research productivity in primary care. This study shines a light on inequity in primary care research by highlighting the challenges faced by women, especially racialized women, in academia. It underscores the importance of addressing these factors to foster a fair and supportive landscape for these researchers in primary care. Institutional and systems leaders must drive bold policy changes and provide targeted support to dismantle structural racism and promote an inclusive and equitable research environment that enhances the productivity and success of *all* primary care researchers. The Sisyphus punishment refers to a mythological tale from Greek mythology where Sisyphus, a king, was condemned by the gods to roll a boulder up a hill, only to have it roll back down every time he neared the top. It symbolizes a seemingly endless and futile task, reflecting the experience of perpetual struggle and frustration. The Sisyphian punishment aligns with the experiences of the researchers described in our study due to the endless, futile nature of their efforts in navigating obstacles to research productivity. It is time for the *Sisyphus punishment* for racialized women and caregivers to end, as diversity is not simply a matter of justice but essential for building robust scientific research that benefits all of society.

#### Contributors

Dr. Monica Aggarwal: funding acquisition, design, data collection, data curation, formal analysis, interpretation, investigation, methodology, project administration, supervision, verification of data, access to raw data,

validation, writing—original draft, and writing—review & editing, final responsibility for the decision to submit for publication; Dr. Sabrina Wong: conceptualization, investigation, formal analysis, interpretation, verification of data, access to raw data, validation, and writing—review & editing.

#### Data sharing statement

The data used for this study will be made available to the corresponding author upon request.

#### Declaration of interests

Dr. Monica Aggarwal and Dr. Sabrina Wong have no conflicts to declare.

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#### Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.lana.2024.100848>.

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